

Change Number M-41-93-01	Federal Facility Agreement and Consent Order Change Control Form <small>Do not use blue ink. Type or print using black ink.</small>	Date Jan. 25, 1994
Originator R. E. Raymond/G. E. Bishop	Phone (509) 373-3647	
Class of Change <input checked="" type="checkbox"/> I - Signatories <input type="checkbox"/> II - Project Manager <input type="checkbox"/> III - Unit Manager		
Change Title Single-Shell Tank Interim Stabilization		
<p>Description/Justification of Change Interim stabilization is the process of removing as much liquid mixed waste as practical from a single-shell tank (SST). The liquid mixed waste from an SST is pumped to a double-shell tank (DST) containing compatible waste. The intent is to minimize the amount of liquid which could leak into the ground, should the SST later begin to leak. Thus, interim stabilization is a proactive means to reduce environmental contamination as a result of leakage from SSTs. After interim stabilization, all connections leading into the SST are plugged, and all valve and pump pits that drain into the SST are sealed in a process called "intrusion prevention" (see definition below.)</p> <p>Liquid mixed waste that can leak from an SST is present in two forms: "supernatant" liquid, which is free standing liquid in the SST, and "interstitial" liquid, which is liquid held in pore spaces in saltcake and sludge in the tank, some of which is capable of draining out by gravity. Thus, "interim stabilization" is defined as the removal of pumpable supernatant and interstitial liquid from SSTs to DSTs. As much liquid as practical will be removed. Following interim stabilization, an SST will contain moist sludge and saltcake with less than 5,000 GAL of supernatant, and less than 50,000 GAL of total drainable liquid.</p> <p style="text-align: right;">(Continued on next page)</p>		
Impact of Change The proposed change supports interim stabilization, and recognizes the need to resume interim stabilization of the SSTs.		
See attached continuation sheet.		
Affected Documents Hanford Federal Facility Agreement and Consent Order, Appendix D (Table D-1 and Figure D-1 Work Schedule). Additional reports and submittals required by this change.		
Approvals <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved This change form approved by Amendment Four to the Hanford Federal Facility Agreement and Consent Order executed by the signatories on January 25, 1994.		<div style="border: 2px solid black; padding: 10px; text-align: center;"> <h1 style="margin: 0;">RECEIVED</h1> <p style="margin: 5px 0;">MAR 17 2003</p> <h2 style="margin: 0;">EDMC</h2> </div>
<u>John Waggoner</u> <u>January 25, 1994</u> DOE Date		
<u>Gerald Emison</u> <u>January 25, 1994</u> EPA Date		
<u>Mary Riveland</u> <u>January 25, 1994</u> Ecology Date		

<u>Milestone</u>	<u>Description</u>	<u>Due Date</u>
M-41-00	Complete single-shell tank interim stabilization. Complete interim stabilization activities for all single-shell tanks except 241-C-106 (to be retrieved in accordance with milestone M-45-03). Complete intrusion prevention for all single-shell tanks except 241-C-106. This is dependent upon the following assumptions: (1) Safety studies will be completed with the objective of allowing pumping in accordance with interim milestones. (2) Work commences in the tank farms on October 1, 1993, for interim stabilization preparations, as required by the milestone schedule. During the stand down in tank farms, schedules for the following interim milestones may be affected: M-41-01, M-41-02, M-41-10, M-41-15, and M-41-16. Every effort will be made to recover the original schedule as specified below. Interim milestones for start of pumping and target milestones for completion for each group of tanks will be reviewed and affirmed annually with Ecology and EPA. Upon start of pumping, efforts to continue pumping will be continuously supported so that pumping is conducted as expeditiously as practical. If pumping is interrupted to a degree that jeopardizes the target milestone, the Unit Managers shall meet in an effort to agree on a recovery plan. If such an agreement cannot be made at the Unit Manager level, a formal recovery plan will be prepared and submitted to Ecology and EPA for approval that supports the major milestone date of September 2000, if technically achievable.	Sep 2000
M-41-01-T01	Start to interim stabilize an additional 3 single-shell tanks.	Aug 1994
M-41-01-T02	Complete interim stabilization of 5 single-shell tanks.	Nov 1994
M-41-01-T03	Start to interim stabilize an additional 2 single-shell tanks.	May 1994
M-41-02	Emergency leak response: prepare an improved single-shell tank emergency pumping capability as defined below.	Mar 1994
M-41-02-T01	Complete and submit to Ecology and EPA a safety analysis report to allow alternate methods for transfer of radioactive waste within single-shell tank farms.	Dec 1994
M-41-02-T02	Complete design and procurement of alternate transfer methods, and mount appropriate equipment in the emergency pumping trailer.	Sep 1995
M-41-02-T03	Issue and submit to Ecology and EPA the detailed procedures for emergency pumping (or other action if not safe to pump) for each non-interim stabilized tank.	Mar 1995

<u>Milestone</u>	<u>Description</u>	<u>Due Date</u>
M-41-02-T04	Restore the 244-U double-contained receiver tank (DCRT) to compliant operating condition. This will allow the use of this DCRT for interim stabilization.	Mar 1995
M-41-03A	Issue request for proposal for a mobile high-level liquid waste transport cask. This cask must already be designed to meet applicable DOT and NRC licensing requirements.	Feb 1994
M-41-03B	Delivery of the mobile high-level liquid waste transport cask. This milestone is predicated on the response received to the procurement request. Upon award of contract, the contract delivery date will be established as this milestone date.	Date TBD
M-41-04	The USDOE shall provide to EPA and Ecology a detailed schedule showing positive and negative impacts of the 1993 tank farms stand down on the interim stabilization program.	Nov 1993
M-41-05	The USDOE shall complete the portions of the Nuclear Operator systems class and on-the-job training that relate to the Operator Routines and Liquid Level Monitoring. Documentation of completion of Operator training shall be provided by submittal of a letter from USDOE to EPA and Ecology.	Dec 1993
M-41-06	The USDOE shall provide to EPA and Ecology the draft curricula for the upgraded Maintenance Training program and an implementation schedule for that training.	Jun 1994
M-41-07	Complete safety studies and analysis on interim stabilization of remaining Watch List tanks and provide the report(s) to Ecology and EPA. These studies to include: a) ferrocyanide tanks; b) hydrogen/flammable gas tanks; and c) organic tanks. If these studies recommend that a Watch List tank not be pumped, DOE will submit to Ecology and EPA a justification report which contains the rationale for not pumping. The rationale will be presented on a tank-by-tank basis.	Dec 1994
M-41-08	Start interim stabilization of 1 non-Watch List tank in 241-U tank farm.	July 1995
M-41-08-T01	Complete interim stabilization of 1 non-Watch List tank in 241-U tank farm.	Mar 1996
M-41-09	Start interim stabilization of 7 non-Watch List tanks in 241-S tank farm.	Jan 1996
M-41-09-T01	Complete interim stabilization of 7 non-Watch List tanks in 241-S tank farm.	Apr 1997
M-41-10	Start interim stabilization of 2 flammable gas Watch List tanks in 241-A/AX tank farms.	Apr 1996

<u>Milestone</u>	<u>Description</u>	<u>Due Date</u>
M-41-10-T01	Complete interim stabilization of 2 flammable gas Watch List tanks in 241-A/AX tank farms.	Dec 199
M-41-11	Start interim stabilization of 4 flammable gas Watch List tanks in 241-U tank farms.	Apr 199
M-41-11-T01	Complete interim stabilization of 4 flammable gas Watch List tanks in 241-U tank farm.	May 199
M-41-12	Start interim stabilization of 4 ferrocyanide Watch List tanks in 241-BX/BY tank farms.	Apr 199
M-41-12-T01	Complete interim stabilization of 4 ferrocyanide Watch List tanks in 241-BX/BY tank farm.	Sep 199
M-41-13	Start interim stabilization of 3 organic Watch List tanks in 241-U tank farm.	Jul 199
M-41-13-T01	Complete interim stabilization of 3 organic Watch List tanks in 241-U tank farm.	Dec 199
M-41-14	Start interim stabilization of 7 flammable gas Watch List tanks in 241-S/SX tank farms.	Jun 199
M-41-14-T01	Complete interim stabilization of 7 flammable gas Watch List tanks in 241-S/SX tank farms.	Nov 199
M-41-15	Start interim stabilization of 2 organic Watch List tanks in 241-S/SX tank farms.	Jun 199
M-41-15-T01	Complete interim stabilization of 2 organic Watch List tanks in 241-S/SX tank farms.	Mar 199
M-41-16	Start interim stabilization of 2 non-Watch List tanks in 241-T tank farm.	Mar 199
M-41-16-T01	Complete interim stabilization of 2 non-Watch List tanks in 241-T tank farm.	Aug 199
M-41-17	Start interim stabilization of 1 ferrocyanide Watch List tank in 241-T tank farm.	Apr 199
M-41-17-T01	Complete interim stabilization of 1 ferrocyanide Watch List tank in 241-T tank farm.	May 199
M-41-18	Start interim stabilization of 1 flammable gas Watch List tank in 241-T tank farm.	Apr 199
M-41-18-T01	Complete interim stabilization of 1 flammable gas Watch List tank in 241-T tank farm.	Jul 199
M-41-19	Start interim stabilization of 1 organic Watch List tank in 241-C tank farm.	Sep 199

<u>Milestone</u>	<u>Description</u>	<u>Due Date</u>
M-41-19-T01	Complete interim stabilization of 1 organic Watch List tank in 241-C tank farm.	Mar 1999

"Intrusion Prevention" is defined as the process of plugging or otherwise blocking pipelines leading into SSTs, and sealing pump or valve pits that drain back into SSTs, or installing barriers to avoid inadvertent liquid addition to a stabilized SST.

These milestones are an augmented replacement for M-05-00 et seq. and allow for continued pumping of SSTs consistent with recent safety issues (Watch List tanks) and planned improvements in tank farm's conduct of operations. Also included are improvements to the emergency pumping capabilities and studies of the safety of pumping. Specific aspects of this milestone are as follows:

- Interim milestones for the start of pumping of SSTs.
- Target milestones for the completion of pumping of SSTs.
- A revised major milestone description that assures that, once started, pumping will continue as expeditiously as practical.
- The safety studies necessary to allow pumping are covered. It is recognized that it is possible that the conclusion of these safety studies may be that pumping cannot be done within existing safety criteria.
- Improved capabilities for emergency leak response is covered including over-ground transfer lines and high-level liquid transport cask.

Impact of Change (Continued)

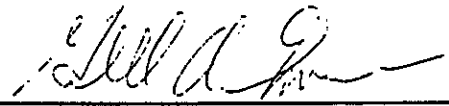
Interim stabilization (pumping) was suspended due to several safety concerns, which are addressed by programs described in the proposed milestones, and then resolved. Stabilization is being resumed for SSTs following resolution of specific safety issues for those tanks. Replaces M-05-00 et seq. Interim milestones for start of pumping are added. Target milestones for completion of pumping are added. This change request identifies an end date of September 2000 for the major milestone. Safety and conduct of operations issues that have impeded pumping are addressed. Improved capabilities for responding to a leaking SST are added.

* This is dependent upon the following assumptions: 1) Safety studies will be completed with the objective of allowing pumping in accordance with interim milestones, and 2) Work commences in the tank farms on October 1, 1993, for interim stabilization preparations, as required by the milestone schedule. During the stand down in tank farms, schedules for the following interim milestones may be affected: M-41-01, M-41-02, M-41-10, M-41-15, and M-41-16. Every effort will be made to recover the original schedule as specified below.

IT IS SO AGREED:

Each undersigned representative of a Party certifies that he or she is fully authorized to enter into this Agreement and Action Plan and to legally bind such Party to this Agreement and Action Plan. These change requests and amendments shall be effective upon the date on which this amendment agreement is signed by the Parties. Except as amended herein, the existing provisions of the Agreement shall remain in full force and effect.

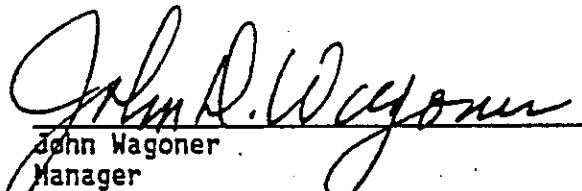
FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:



Gerald Emison
Acting Regional Administrator
Region 10
U.S. Environmental Protection Agency

1-25-94
Date


FOR THE UNITED STATES DEPARTMENT OF ENERGY:



John Wagoner
Manager
U.S. Department of Energy
Richland Operations Office

1/25/94
Date

FOR THE WASHINGTON STATE DEPARTMENT OF ECOLOGY:



Mary Riveland
Director
State of Washington
Department of Ecology

1/25/94
Date